ProSTEP iViP/VDA
2. JT Translator Benchmark

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SHORT REPORT

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1 Introduction

Publication of the JT specification 8.1c as an ISO Publicly Available Specification (PAS 14306) has laid the foundation for establishing JT as a mandatory process format. The ProSTEP iViP Association and the German Association of the Automotive Industry (VDA) have launched three JT-related projects in succession which are being coordinated with each other: the ProSTEP iViP/VDA JT Workflow Forum, the ProSTEP iViP/VDA JT Translator Benchmark and the ProSTEP iViP/VDA JT Implementor Forum. Furthermore, the ProSTEP iViP Association and Siemens PLM are working hand in hand toward standardizing JT with the ISO. In August, the ProSTEP iViP Association submitted the latest JT specification (version 9.5) to the ISO for standardization. On 26.11.10, the ISO announced that the specification had been accepted for standardization. This means that the first and most important hurdle on the way to establishing JT as an ISO standard has been taken. The objective is to bring the specification of JT as an ISO standard to a successful close by the end of 2011.

The second JT translator benchmark was carried out in 2010 to achieve an independent evaluation of the progress being made with regard to the development of JT translators. The object of the testing was JT 8.1c (ISO PAS). The benchmark was managed by the JT Workflow Forum and JT Implementor Forum. Because the benchmark involved an independent activity, it was financed directly by the two organizations the ProSTEP iVIP Association and the VDA and not by the participating companies whose products were being tested. The aim was to create a neutral comparison of currently available JT translators with regard to selected test criteria. This means that the results of the benchmark can not only be used to evaluate the application of JT in PLM environments but also improvement to the interoperability of the translators.

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The second benchmark explicitly tested the quality of JT export and import. The respective conversion steps were also evaluated separately. The benchmarking methodology applied, the CAD systems and translators involved, the test criteria and test models used, and a summary of the results are described below.

2.1 Procedure

The quality of JT export and import were tested. Different combinations of translators and CAD systems were used by way of example. The information to be transferred and the requirements were defined by users in the ProSTEP iViP/VDA JT Workflow Forum. The vendors participating in the benchmark verified the test cases proposed by the users. They were also responsible for making available the translator settings to be used for their respective tools.

2.2 CAD systems and translators

Translators from four vendors and three CAD systems were involved in the benchmark. Only versions available on the market at the time the benchmark was started were used. The versions of the CAD systems used were determined by the participants in the ProSTEP iViP/VDA JT Workflow Forum. The translators and CAD systems involved in the benchmark are listed in Table 1 and Table 2.

These translators result in the test case matrix shown in Figure 1. The sending systems are listed in the column on the left and the receiving systems in the top row. The translators used to export the JT files are listed to the right of the sending systems, and the translators used to import the JT files are listed under the receiving systems. The abbreviations listed in Table 1 and Table 2 were used to make the matrix and result tables easier to read.

2.3 Test criteria

The following criteria were used to evaluate the results. The test criteria were defined for the ProSTEP iViP/VDA JT Translator Benchmark 2010 by users on the basis of user requirements and technical constraints. The criteria used for testing do not claim to represent the entire application spectrum, but they have been selected in such a way that they are a good indication of the trend in the various areas of application.

Only test criteria that can be satisfied in accordance with ISO PAS 14306 (JT, version 8.1c) were considered:

- Completeness of the geometry data
  - o XT-BREP has to be used in the JT file for transferring exact geometry. In the case of the geometry, it was specified that a deviation of no more than 1% of the